ABSTRACT

A composite processing apparatus which can securely process a conductive material, such as a copper film, at a low surface pressure and a high rate while effectively preventing the formation of pits is disclosed. The composite processing apparatus includes: a substrate holder for holding a substrate; a processing table including a mechanical processing section for processing a surface of the substrate by a processing method involving a mechanical action; and an electrolytic processing section which is separate from the mechanical processing section. The electrolytic processing section includes a processing electrode with an ion exchanger, for processing the substrate by applying a voltage between the processing electrode and the substrate while keeping the ion exchanger (92) in contact with the substrate. The composite processing apparatus also includes a liquid supply section for supplying a liquid between the substrate and the processing electrode, and between the substrate and the mechanical processing section; and a drive section for moving the substrate and the processing table relative to each other.